

What is claimed is:

1    1.     An apparatus, comprising:  
2                a first electronic device adapted to  
3                        compare a first indicator of a predicted duration of a first transmission to  
4                a second electronic device with a second indicator of a predicted duration of a second  
5                transmission to a third electronic device;  
6                        adjust starting times of at least one of the first and second transmissions  
7                to cause the first and second transmissions to end at approximately a same time; and  
8                        transmit the first and second transmissions using the adjusted starting  
9                times.

1    2.     The apparatus of claim 1, wherein the first electronic device is further adapted  
2                to receive a first response comprising a first acknowledgment to the first transmission  
3                from the second electronic device and to receive a second response comprising a  
4                second acknowledgment to the second transmission from a third electronic device.

1    3.     The apparatus of claim 1, wherein the first electronic device is further adapted  
2                to include a poll in the first transmission and to include a poll and other data in the  
3                second transmission.

1    4.     The apparatus of claim 1, wherein the first electronic device is further adapted  
2                to set a transmission period for the first and second transmissions based on a longer of  
3                the predicted durations of the first and second transmissions.

1       5.     The apparatus of claim 1, wherein:  
2              the first transmission and the second transmission are to have different data  
3              rates; and  
4              the predicted durations of the first and second transmissions are partly based on  
5              the different data rates.

1       6.     The apparatus of claim 1, wherein the first electronic device comprises a  
2              computing platform to perform said comparing.

1       7.     The apparatus of claim 6, further comprising at least four  
2              modulator/demodulators coupled to the computing platform.

1       8.     The apparatus of claim 7, further comprising at least four antennas, each of the  
2              at least four antennas coupled to at least one of the at least four  
3              modulator/demodulators.

1       9.     The apparatus of claim 1, wherein the first electronic device comprises a base  
2              station.

1       10.    The apparatus of claim 1, wherein the second and third electronic devices  
2              comprise mobile devices.

1       11.    The apparatus of claim 1, wherein the first electronic device is further adapted  
2              to transmit the first and second transmissions using spatial division multiple access  
3              techniques.

4       12.     A method, comprising:  
5                 making a comparison of a first indicator of a predicted duration of a first  
6                 transmission to a first electronic device with a second indicator of a predicted duration  
7                 of a second transmission to a second electronic device;  
8                 beginning a transmission of a longer of the first and second transmissions; and  
9                 beginning a transmission of a shorter of the first and second transmissions after  
10          a delay approximately equal to a difference between the predicted duration of the first  
11          transmission and the predicted duration of the second transmission;  
12                 wherein the first and second transmissions use spatial division multiple access  
13          techniques.

1       13.     The method of claim 12, further comprising ending the first and second  
2          transmissions at approximately a same time.

1       14.     The method of claim 13, further comprising beginning an acknowledgment  
2          timeout period after said ending the first and second transmissions.

1       15.     The method of claim 12, further comprising receiving a first response from the  
2          first electronic device and receiving a second response from the second electronic  
3          device substantially simultaneously.

1       16.     The method of claim 15, wherein said receiving the first and second responses  
2          comprises receiving a beginning of the first and second responses approximately an  
3          interframe space after an end of the first and second transmissions.

1       17.     The method of claim 12, further comprising using data rates to determine the  
2     predicted durations.

1       18.     A machine-readable medium that provides instructions, which when executed  
2     by a processing platform, cause said processing platform to perform operations  
3     comprising:

4              determining predicted durations of multiple transmissions to be transmitted  
5     from an electronic device;  
6              adjusting start times for at least some of the transmissions to cause the multiple  
7     transmissions to end at approximately a same time; and  
8              transmitting the multiple transmissions substantially simultaneously using the  
9     adjusted start times and using spatial division multiple access techniques.

1       19.     The medium of claim 18, wherein said determining comprises using data rates  
2     to determine said predicted durations.

1       20.     The medium of claim 18, wherein the operations further comprise receiving  
2     responses to the multiple transmissions substantially simultaneously.

1       21.     The medium of claim 20, wherein the operations further comprise initiating a  
2     timeout period for reception of an acknowledgment to at least one of the multiple  
3     transmissions.

1       22.     The medium of claim 20, wherein said receiving comprises receiving  
2     beginnings of the responses approximately an interframe space after an end of the  
3     multiple transmissions.